

When: 9 December**Where: Skoltech, B4-3005 (New Campus)**

TWO LECTURES

12:30**Speaker:****Konstantin Khrapko**Professor,
Department of Biology,
Northeastern University
Boston

FROM MULLER'S RATCHET TO THE TALE OF LILITH:

**MTDNA, MTDNA MUTATIONS
AND MTDNA PSEUDOGENES**

mtDNA may be the weak link in the struggle against Muller's Ratchet, and as such may be a (the) reason for animals to keep continuous female germline... Are 'good' mitochondrial genomes being purified by 'germline selection', without the need to kill unfit individuals? Are mtDNA mutations involved in the Aging process? Can ancient mtDNA mutations preserved in nuclear pseudogenes of mtDNA be used to reconstruct human evolution, including punctuated equilibrium episodes and hybridization events?



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14:00**Speaker:****Konstantin Popadin**Senior Scientist, Swiss Federal Institute of Technology,
Lausanne EPFL, Faculty of Life Sciences SV,
Institute of Infectious Disease Research,
Professor-investigator,
Immanuel Kant Baltic Federal University,
Center of Mitochondrial Functional Genomics.

MITOCHONDRIAL COMPONENT OF AGING:

**SEARCHING FOR DETERMINANTS
OF SOMATIC MUTATION RATE**

Aging is associated with accumulation of somatic mutations. This process is especially pronounced in mitochondrial genomes of postmitotic cells (neurons, skeletal muscles), where within-cellular competition of mtDNA is not restricted by between-cellular level of selection. During the lecture I plan to discuss several lines of evidence suggesting the causative role of mtDNA mutations in some phenotypes of aging and propose large-scale population experiment which will help to validate these causative links and discover new ones.

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